

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Continuation Patent Application of:

INVENTORS: Kari-Pekka Wilska, Reijo Paajanen, Mikko Terho,
Jari Hamalainen

-- which continuation application, filed herewith, is based on co-pending allowed parent application:

SERIAL NO.: 08/807,322 EXAMINER: Maung, N.
FILED: 2/27/97 ART UNIT: 2744

which allowed parent application was a file-wrapper-continuation application of grandparent application:

SERIAL NO.: 08/444,224 EXAMINER: Coward, L.
FILED: 5/18/95 ART UNIT: 2608

a conforming copy of which grandparent application, as filed, is attached hereto, and based on which priority is claimed. --

TITLE: DEVICE FOR PERSONAL COMMUNICATIONS, DATA COLLECTION AND
DATA PROCESSING, AND A CIRCUIT CARD
ATTORNEY'S DOCKET NO.: 297-005893-US (C02)

Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Please preliminarily amend the continuation application filed herewith as follows:

In the Specification:

At page 1, line 2, after the word CARD" insert --

BACKGROUND OF THE INVENTION --;

At page 2, line 15, after "equipment." insert --

BRIEF DESCRIPTION OF THE DRAWINGS --;

At page 3, line 11, after "closed." insert --

DETAILED DESCRIPTION OF THE INVENTION --; and

At page 7, line 2, delete the words "Camera card" and replace with
-- By example, camera card --.

In the Claims:

Cancel Claims 1 - 9 as originally filed in the grandparent case..

Add the following claims:

10. A circuit card, which can be fitted to a card slot of a device for personal communication, data collection, and data processing, and comprising:

optics built in said circuit card for obtaining image information;

an image sensor in said circuit card for obtaining image information;

an image processing unit in said circuit card;

a memory unit in said image processing unit for storing obtained image information; and

a processor unit in said image processing unit for processing obtained image information.

11. A circuit card according to claim 10, wherein said memory unit comprises at least volatile and non-volatile memory.

12. A circuit card according to claim 10, further comprising a power supply for providing power to maintain said obtained image information in said memory unit.

13. A circuit card according to claim 10, wherein said image sensor is a semiconductor camera.

14. A circuit card according to claim 10, further adapted to fit into a card slot of a device for personal communication, data collection and data processing that is a PCMCIA compatible card slot.

15. A circuit card according to claim 10, wherein said circuit card has physical dimensions corresponding substantially with those of a standard PCMCIA circuit card.

16. A circuit card according to claim 10, further comprising means for performing a character recognition task on image information obtained by said image sensor for generating a set of recognized characters.

17. A circuit card according to claim 16, wherein said means for performing a character recognition task comprises a software program stored in the memory unit of the circuit card.

18. A circuit card according to claim 10, further comprising means for performing a pattern recognition task on a graphical object in said image information obtained by said image sensor.

19. A circuit card according to claim 18, wherein said means for performing a pattern recognition task comprises a software program stored in the memory unit of the circuit card.

20. A circuit card according to claim 10, further comprising an output coupled to said image processing means for outputting image information obtained by said image sensor to said device for personal communication, data collection, and data processing.

21. A circuit card, which can be fitted to a card slot of a

device for personal communication, data collection, and data processing, comprising:

optical means, in said circuit card, for obtaining image information;

image sensor means, in said circuit card, for obtaining image information from said optical means; and

an image processing unit, in said circuit card, comprising:

memory means for storing image information obtained by said image sensor means; and

processor means for processing image information obtained by said image sensor means.

22. A circuit card according to claim 21, further comprising character recognition means for performing a character recognition task on image information obtained by said image sensor means and generating a set of recognized characters.

23. A circuit card according to claim 22, wherein said character recognition means comprises a software program stored in said memory means.

24. A circuit card according to claim 21, further comprising pattern recognition means for performing a pattern recognition task on graphical information in said image information obtained by said image sensor.

25. A circuit card according to claim 24, wherein said pattern recognition means comprises a software program stored in said memory means.

26. A circuit card according to claim 21, further comprising an output coupled to said image processing unit for outputting image information obtained by said image sensor means to said device for personal communication, data collection, and data processing.

REMARKS

Claims 1 - 9 as originally filed in the grandparent case, on which this case is based, have been cancelled, and Claims 10 - 26 have been added.

Claims 10 - 26 are in the case.

Claim 10 is identical to Claim 49 of the parent case, which claim was cancelled in that case without prejudice to re-filing in the present case.

Support for the added dependent claims can be found in the specification as follows:

Support for Claim 11 can be found in the application at Page 7, lines 11 to 15.

Support for Claim 12 can be found in the application at Page 7, lines 16 to 18.

Support for Claim 13 can be found in the application at Page 7, lines 9 to 11.

Support for Claim 14 can be found in the application at Page 5, lines 12 to 14.

Support for Claim 15 can be found in the application at Page 6, lines 21 to 23.

Support for Claims 16 and 22 can be found in the application at Page 8, lines 12 and 13.

Support for Claims 17 and 23 can be found in the application at Page 8, lines 12 and 13.

Support for Claims 18 and 24 can be found in the application at Page 8, lines 13 and 14.

Support for Claims 19 and 25 can be found in the application at Page 8, lines 13 and 14.

Support for Claims 20 and 26 can be found in the application at Page 7, lines 27 to 31.

Regarding the prior art, in the last Office Action in the parent case claims to a circuit card of similar scope to the claims added herein (Claim 10, as noted, being identical to Claim 49 of the parent case) were rejected as anticipated by the reference PARULSKI (WO 94/14274), which rejection Applicants wish to traverse here for the reasons as follows.

Firstly, it should be seen that PARULSKI's teaching is directed to providing an electronic camera designed for operation with a small portable computer having a card interface of the type used for communicating with a removable memory card. The camera includes an image sensor for converting an image into an electrical signal, an A/D converter for converting the electrical signal into a digital signal, and a signal processor for interfacing the digital signal to the card interface, ordinarily a slot receptacle on the computer. As indicated in the Abstract, the interface to the computer includes "a mechanical extender (24) that physically interconnects the camera to the card slot (16) on the computer."

It would appear that the Examiner in the parent case was contending that the mechanical extender described by PARULSKI, in combination with the camera unit itself, is an equivalent of the circuit card disclosed in Applicants' specification and accordingly defined in the claims above. However, it is submitted that this contention is erroneous and that PARULSKI's mechanical extender is simply a card that enables a separate camera unit to be physically and electrically coupled to a portable computer and suggests nothing regarding the circuit card of Applicants' invention particularly as claimed herein.

For example, in the embodiment of Applicants' invention defined by independent Claim 10, the optics, image sensor, image processing unit, and memory unit are all provided in the circuit card. Further, in the embodiment defined in Claim 13, at least a part of a camera unit comprising a camera, optics, and associated electronics such as an image processing unit and a memory unit, are provided in the circuit card. PARULSKI does not disclose, nor does he suggest that any part of the camera can be provided in a circuit

card which can itself be coupled to a card slot of a portable computer. In order to couple the camera to the computer, PARULSKI requires a mechanical adapter.

Specific evidence supporting the Applicants' interpretation that PARULSKI's extender card is just a connector intended to enable the physical and electrical connection of an independent camera unit to a portable computer can be found from the following passages in the technical description of WO 94/14274:

Page 4, lines 16 to 28:

"In accordance with the invention, an electronic camera operates with a computer having a card interface... For this purpose, the camera includes.... means for interfacing the digital signal to the card interface on the computer. By further defining the interfacing means to include a mechanical adaptor that physically interconnects the camera to a card slot on a portable computer, the structural connection links the camera and computer together as a hand-held unit."

This description does not state or suggest that the camera is integrated into a circuit card that can be connected to a card slot of a portable computer. Instead, it states that a mechanical adaptor is used to interconnect a camera with a card slot of a portable computer.

Page 6, lines 4 to 12:

"Referring to Figure 2, and in accordance with one embodiment of the invention, an electronic camera 20 incorporates a structural element 22 which allows the camera to be connected into the conventional memory card receptacle 12 of a portable computer 10. The receptacle 12 is, e.g., a slot 16 for receipt of a card containing semiconductor memory and the structural element 22, in that case, is an extender board 24 that fits into the slot 16". Again, there is no suggestion here that any part of the camera is integrated into a circuit card. Instead, the camera is provided with an extender board that simply functions as a connector enabling the camera to be connected to a conventional card slot in the portable computer. The extender board 24 is illustrated in Figure 3, from which it can be clearly seen that no part of the camera is provided in the extender board.

Page 9, lines 1 to 4:

"The camera 20 is thus connected into the 68 pin PCMCIA memory card slot 16 of the portable computer 10 by means of an extender board 24 that matches PCMCIA card dimensions."

Again, this description simply states that a camera is connected to a card slot of a portable computer by means of an extender board. It does not state, nor does it suggest, that any part of the camera can be integrated or provided in a circuit card that fits directly into the card slot.

Page 12, lines 27 to 32:

"In a second embodiment shown in Figure 6, the camera 20 includes an enclosure 21 connected to the extender board 24 via a flexible multi-wire cable 70.... The extender board 24 plugs into the PCMCIA slot 12 in the computer 10."

Once again there is no suggestion that any part of the camera is provided in a circuit card that fits directly into the card slot.

Finally, it should be noted that none of the claims of WO 94/14274 refer to any part of the camera being provided in a circuit card. Claim 1 simply states that an electronic camera according to the invention comprises means for interfacing a digital signal to a card interface on a computer (see Page 14, lines 11 and 12). Claim 2 specifies that the interfacing means "includes a structural element for mating with" a connector on the computer, and Claim 3 further states that the structural element is "a mechanical adapter that physically interconnects the camera to the computer". Claim 11 refers to "an adaptor for conveying the processed digital signal through the card slot to the computer."

Consequently, it is submitted that PARULSKI's teaching cannot support the reasoning used in the grounds for rejection of Applicants' invention as defined in Claim 49 in the parent case. Accordingly, Claim 10, which is identical to Claim 49, and all of its dependent claims, as well as the other claims presently in the application, are in condition for allowance for the reasons set forth in detail above, so that it is earnestly solicited that this application be promptly considered, the claims be allowed, and the application be passed to issue.

As the number of independent claims and the total number of claims

requested herein does not exceed the number covered by the filing fee, no additional fee is believed to be required. However, if necessary, the Commissioner is authorized to charge Deposit Account No. 16-1350 for any further fee that may be required for their entry.

Respectfully submitted,

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